

PLANT PATENT

[File No. 10451.0040.NPUS01]

APPLICATION FOR UNITED STATES PLANT PATENT

for

CHRYSANTHEMUM PLANT NAMED 'STEPS'

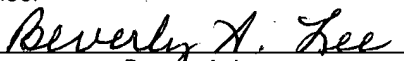
by

Mark R. Boeder, Koningsplein 41, 2518 J.H., Den Haag, The Netherlands

EXPRESS MAIL MAILING LABEL: EL615212705US

DATE OF DEPOSIT: July 17, 2003

I hereby certify that this paper or fee is being deposited with the United States Postal Service "EXPRESS MAIL POST OFFICE TO ADDRESSEE" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Beverly A. Lee

This application claims the benefit of U.S. Provisional Application No. 60/396,826, filed July 17, 2002.

LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: *Dendranthema grandiflora*.

5

VARIETY DENOMINATION

The new Chrysanthemum variety denomination is 'Steps.'

BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as *Dendranthema grandiflora*, and referred to by the cultivar name 'Steps'. 'Steps', identified as 21174-0 originated from a cross made in a controlled breeding program in Chichester, West Sussex, United Kingdom. The female parent of the new variety is an undistributed, unpatented seedling identified as P371D4. The male parent of the new variety is an undistributed, unpatented seedling identified as P381D4. The new variety 'Steps' has been asexually reproduced by vegetative cuttings in Chichester, West Sussex, United Kingdom and the distinguishing characteristics are retained through successive generations of asexual reproduction.

15

BRIEF SUMMARY OF THE INVENTION

'Steps' is a pot type of Chrysanthemum plant variety having dark pink single spoon.

Comparison with Parent

20

Plants of the new Chrysanthemum variety 'Steps' are dissimilar to the parent cultivar 'P371D4' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of the parent cultivar 'P371D4' in the following characteristics.

25

1. The new variety 'Steps' produces dark pink single spoon flowers whereas the parent cultivar 'P371D4' produces bronze single flowers.

2. Plants of the new variety 'Steps' have similar size and similar height inflorescence to plants of the parent cultivar 'Steps'.

Comparison with Other Varieties

- 5 Plants of the new Chrysanthemum variety 'Steps' are similar to the cultivar 'Scott' in plant habitat and growth rate. However, in side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of the cultivar 'Scott' in the following characteristics.
- 10 1. The new variety 'Steps' produces dark pink single spoon flowers whereas the cultivar 'Scott' produces purple single spoon flowers.
 2. Plants of the new variety 'Steps' have larger and taller inflorescence than plants of the cultivar 'Scott'.

BRIEF DESCRIPTION OF ILLUSTRATIONS

- 15 Typical specimens of the plant and flowers for the new Chrysanthemum variety 'Steps' are shown in the accompanying digital photograph. The colors shown are as true as possible within the usual limits of this kind of illustration. Figure 1 is a whole plant view of the new variety 'Steps' grown in a pot. The plant shown in the illustration is 55 days after the commencement of Short Days.

20 DETAILED BOTANICAL DESCRIPTION

- The following description of the new Chrysanthemum variety 'Steps' is of plants grown in a greenhouse in Chichester, West Sussex, United Kingdom in the month of February. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. The commercial classification of the new variety is a pot Chrysanthemum.

Plants of the new variety have been grown successfully under temperature conditions averaging about 18°C at night and about 24°C to 25°C during the day under light conditions of about 5000 to 6000 foot candles. The plants respond well to the use of

growth retardant, such as B9 treatment. To produce a commercial product the plants may be pinched once with the center bud removed. The typical container size for commercial growth is 14 cm. It has been observed that the shelf life of the new variety is about 24 days with a response time of about 8 weeks. The new variety is suitable for growth in a temperature range of 17°C to 28°C

The following description is with respect to a plant produced as pot Chrysanthemum. In the description of this new Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

Plant

- 10 Plant type: Pot
Habit: Upright and free branching
Height: 24 cm
Width: 34 cm
Branching characteristics: Upright and free branching
- 15 Length of Lateral Branches: 6-11 cm
Number of Breaks from Pinch: 3-5
Stem Color: 137C
Response Time: 55
Vigor: Medium
- 20 Shelf Life: 24 days
Disease/Pest (Susceptibility/Resistance observed): None observed to date
Growth retardant type and treatment: 3 applications of 2.5 gm/litre B9 @ 2, 21 and 28 days after sticking of unrooted cuttings.
The plants were grown for 3 weeks in Long Day conditions (20 hours of light) and then
25 transferred to Short Day conditions (13 hours of dark).
Propagation:
Type: Vegetative Propagation Via Stem Cuttings
Time to rooting: 12-14 days with soil temperatures of 18°C.
Rooting habit: Fine and Fibrous
- 30 Other treatments or conditions: None

Foliage

Number of Leaves Per Lateral Branch: 8-10

Compound or single: Single

Arrangement of Leaves: Alternate

5 Shape of Leaf: typically 5 lobed ovate

Size of Leaf: *Width* (cm): 3-7 cm *Length* (cm): 4-10 cm

Leaf Apex: Rounded

Base: Acute

Attachment: Petioled

10 Aspect: Slightly undulating

Margin: Palmetely lobed

Surface characteristics: *Top*: Slightly pubescent

Bottom: Pubescent

Petiole: *Color*: 137C

15 *Length*: 1.5 cm

Venation: Net prominent midvein at underside

Color: upper side: Near 138B

under side: Near 138C

Color: Mature Leaf, *upper side*: Near 137A; *under side*: Near 138A

20 Young Leaf, *upper side*: Near 137B; *under side*: Near 137C

Flower

Flower appearance: Matte

Flower type: Single

Flower form: Cupped

25 Flower shape: Circular

Flower habit: Cyme

Number of blossoms per branch: 3-5

Inflorescence form: Pyramid

 Depth of fully expanded blossoms: 1.5 cm

30 Diameter of fully expanded blossoms: 8.5 cm

Sepals:

- 5 *Number:* 25-30
 Outer Color: Near 137C
 Length: 0.5-0.8 cm
 Width: 0.1-0.3 cm
 Texture/Appearance: Pubescent

Peduncle: Peduncle length is shortest at the terminal flower and progressively longer moving down the stem

- 10 *Length:* 3 – 10 cm, average 5 cm
 Color: Near 137
 Surface: Pubescent
 Habit: Slightly Curving
 Strength: Medium

Pedicel: *Length:* terminal: 2.5-6 cm; lateral: 2.5-8 cm

- 15 *Color:* Near 138B
 Surface: Pubescent
 Habit: Slightly Curving
 Strength: Medium

Ray Florets:

- 20 *Form/Shape:* Spatulate
 Texture/Appearance: Matte
 Number per flower: 30-35
 Length: 2.5 to 5 cm; *Width:* 0.3-1 cm
 Apex: Rounded
 Base: Tubular
 Margin: Entire

Disc florets:

- 30 *Form/Shape:* Cylindrical
 Texture/Appearance: Shiny
 Number per flower: 200-300
 Length: 0.6 cm; *Width* 0.1 cm
 Diameter of disc: 2 cm

Fragrance: None

Flower Bud (at onset of color):

- 35 *Length:* 1 cm

Diameter: 1.2 cm

Form/shape: Globular

General flower color:

- 5 1. Ray florets, *upper side*:
- Immature*: Near 67A
 Mature: Near 67B
 Older/Fading: Near 67C
2. Ray florets, *under side*:
- 10 *Immature*: Near 67B
 Mature: Near 67D
 Older/Fading: Near 73B
3. Disc florets:
- Immature*: Near 143A
 Mature: Near 144B
 Older/Fading: Near 151A
- 15 4. Bud: 138B

Flower progression with age: No change in flower form, slight colour fading as flowers mature.

20 Reproductive Organs

Ray Florets: Pistillate

- 25 *Pistil number:* >30
 Stigma color: Near 5B
 Stigma shape: Forked
 Style Color: Near 5B
 Style Length: 0.5 cm

Disc Florets: Pistillate

- 30 *Pistil Number:* >30
 Stigma color: Near 7A
 Stigma shape: Forked
 Style Color: Near 7A
 Style Length: 0.4 cm

Staminate: None observed to date

Fruit and Seeds: None observed to date